

REMARKS/ARGUMENTS

The Applicant calls attention to U.S. Patent application Serial Number 10/758,711 filed January 15, 2004 in the name of the present inventor entitled Method and Apparatus for Image Processing.

The Applicant acknowledges with thanks the courtesy of the telephonic interview of October 11, 2007 in which the Applicant Axel K. Kloth, attorney Kenneth R. Allen, and principal of assignee Royce Johnson participated with Examiner Tsai and SPE Wu. Claims 1 and 9 as herein presented were discussed and have been evidently been explained sufficiently to grant allowance of all claims now pending.

With respect to the prior Office Action, the Applicant thanks the Examiner for withdrawing objections to the specification and drawings. The lengthy office action is noted. By this response and amendment, it is respectfully submitted that the claimed invention patentably distinguishes the cited art. The Applicant respectfully requests withdrawal of the final rejection and allowance of all claims, particularly in view of the present narrowing and clarifying amendments.

Claims 1-17 now stand finally rejected under 35 U.S.C. §103(a) over Juvinall in view of Chen. Paraphrasing the claims of the present application, the Examiner has evidently asserted that the Juvinall/Chen combination teaches the claimed invention, which the Applicant respectfully disputes, as explained herein below.

It is the Applicant's position that the claims, particularly claim 1 and claim 9 as amended, define patentable subject matter. The subject matter of Juvinall, which was specifically cited by the Applicant, is the type of deficient prior art that the present invention addresses to overcome, as discussed in the background of the invention. None of the art of record discloses computational structures or processing on a per-frame basis without access to external memory and generalized image processing at the object level.

To the extent not otherwise specifically argued herein, the Applicant renews and reiterates his position stated previously, for the purposes of preservation of arguments on appeal.

The Applicant respectfully submits that the Juvinall reference teaches a person of ordinary skill in the art away from the claimed invention.

In particular, the Examiner relies on Juvinall, column 2, lines 50-55 as an enabling teaching of the invention. In fact, it is clear that the cited excerpt, when read in context, teaches away from the present invention. Reference is made to Juvinall, column 2, line 60 to column 3, line 2, which states:

"By controlling operation of these electronics, the mater computer obtains pixel data from the camera and stores such data by pixel in memory, retrieves pixel data from memory and loads such data by pixel into the systolic array processor such that each of the plurality of one-bit processors retrieves and operates on one byte of pixel data, returns data from the systolic array processor to the memory, and retrieves pixel data from memory and loads such data into the data dependent processor for non-sequential and/or data dependent image processing."
[emphasis added]

This methodology is contrary to the teachings of the presently claimed invention, wherein data is retrieved from and stored on a per-frame basis in registers integral with the image processing engine. The present invention does NOT retrieve from and write to external memory in the processing operations on object-independent data.

The Applicant previously addressed the deficiencies of the prior art, to which Juvinall and Chen belong and represent, in the Specification. Namely, two key features are not disclosed or taught: First, processing of data at the pixel level on a per-frame basis without accessing external memory, and, second, processing of data at the object level with an SMP. To the second point, the Applicant respectfully disputes the Examiner's inferences from the prior art. To the first, the Applicant has amended the independent claims to more clearly point out that there is no direct memory access in the processing. Data found in integral registers associated with the central processors are processed without any access to the external memory. This is a fundamental and economically significant difference between this and the teachings of the prior art.

The Applicant respectfully traverses the assertions that the two cited reference can be combined to yield the claimed invention. Even if combined, they do not teach the claimed

invention. If one were to combine the teachings of the two references, it would only aggravate the memory i/o problem, the problem which the present invention addresses and overcomes.

Referring to claims 2-8 and 10-17, the Applicant has presented claims with more particularity that also distinguish over the prior art. In particular, claims 1 and 9 recite that the post processor is based on an SMP, which is quite unlike the cited prior art. Further, in claims 4 and 12, it has been recited that the image processor is a massively parallel processor single instruction multiple data type engine processing the entire frame internally. This is also quite unlike and contrary to the teachings of the prior art.

The Applicant is therefore of the opinion that the Examiner has misunderstood the state of the art and has yet to acknowledge the distinctions articulated in the claims.

CONCLUSION

In view of the foregoing, the Applicant believes all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (650) 326-2400.

Respectfully submitted,



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